

Notice of Allowability	Application No.	Applicant(s)	
	10/614,858	CHANG, YUNG-CHING	
	Examiner	Art Unit	
	Richard Lee	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other ____ |
|---|---|

Art Unit: 2621

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. In the Claims:

Claim 1, line 1, "coding" has been changed to --codes--;

Claim 2, line 3, before "used", "the" has been changed to --a--;

Claim 2, line 3, after "of", "the" has been changed to --a--; and

Claim 12, line 2, after "inter-coded", --macroblock-- has been inserted.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Katta discloses an image compression/encoding apparatus and system with quantization width control based on bit generation error.

Jeng et al discloses a single pass variable bit rate control for digital video coding.

Chung et al discloses a quantization method and circuit.

Lu et al discloses a system and method for reencoding segments of buffer constrained video streams.

Wells et al discloses a video transcoder with bitstream look ahead for rate control and statistical multiplexing.

Rajagopalan et al discloses a single pass target allocation for video encoding.

Art Unit: 2621

4. The following is an Examiner's Statement of Reasons for Allowance:

Claims 1-13 are considered allowable over the prior art of record because the prior art of record does not particularly suggest, disclose, or teach a rate control method with region of interesting support, which codes macroblocks in a current picture with different priority Pri_i , the rate control method comprising the particular steps of allocating a bit budget BB_I for each macroblock according to the priority Pri_i and a bit budget BB_C of the current picture, calculating an estimated complexity $EstCom_C$ for the current picture according to a complexity Com_X of a previously coded picture, a picture activity Act_X of the previously coded picture and the picture activity Act_C of the current picture, calculating an estimated quantizer scale $EstQ_C$ according to the estimated complexity $EstCom_C$ and the bit budget BB_C , calculating an initial virtual buffer occupancy $D0$ according to a reaction factor R_X and the estimated quantizer scale $EstQ_C$, calculating a macroblock quantizer scale Qi according to a virtual buffer occupancy $Di-1$ of a previously coded macroblock, the priority Pri_i and the reaction factor R_X , encoding each macroblock according to the macroblock quantizer scale Qi , and updating a virtual buffer occupancy Di of a current coded macroblock according to a used bit UB_i of the current coded macroblock, the virtual buffer occupancy $Di-1$ of the previously coded macroblock and the bit budget BB_i of the current coded macroblock as claimed in claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably **accompany** the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2621

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (571) 272-7333. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

Richard Lee/rl

11/9/06

A handwritten signature in cursive script, appearing to be 'RL' or 'Lee', written in dark ink.